UNITED STATES PATENT AND TRADEMARK OFFICE

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EXAMINER
KIM, HEE-YONG

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *14 June 2006*.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-20* is/are pending in the application.
   4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) *1-20* is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on *14 June 2006* is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some * c) ☐ None of:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____.
      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date *1/8/2007 and 3/1/2010*.
4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 101

1.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2.   **Claims 14-20** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

A). The Examiner notes that the term "machine..." as the courts have defined "... includes every mechanical or combination of mechanical device or combination of devices to perform some function and to produce a certain effect or result." Coming v. Burden, 56 U.S. (15 How.) 252, 267 (1854). However, the Examiner doesn't believe this lends itself to the modern definition of" computers" which are comprised of processors (elements conducting electrical processes representing complex operations), to arrive at desired computerized results. Accordingly, the Examiner suggests that the term "machine" in the claims be replaced with "computer" in order to fully connote the software based embodiment that is desired by these sets of claims, and in accordance with the Interim Guidelines, Annex IV (Section c).

B). The Examiner notes that "having instructions..." does not specify how the instructions are (a) associated with the medium, or (b) the nature of instructions. Data structures not claimed as embodied (or encoded with or embedded with) in a computer readable medium are descriptive material per se, and are not statutory, Warmerdam, 33 F.3d at 1361, 31, USPQ2d at 1760). Specifying the association in the manner listed above would sufficiently address the first condition. Similarly, computer

programs claimed as computer listings, instructions, or codes are just the descriptions,

expressions, of the program are not "physical things". They have neither computer

components nor statutory processes, as they are not "acts" being performed. In

contrast, a claimed "... computer readable medium encoded with a computer program..."

is a computer element which defines structural and function interrelationships between

the computer program and the rest of the computer, and is statutory, ~ 32 F.3d at 1583-

84, 32 USPQ2d at 1035. Specifying the instructions as a "computer program" would

sufficiently address the second condition, Interim Guidelines, Annex IV (Section a).

Corrections to the claims, and supporting specification are required.

Claim Rejections - 35 USC § 102

3.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4.   **Claims 1-4, 9-10,** and **13-16** are rejected under 35 U.S.C. 102(b) as anticipated

by Kuhn (US 2002/0,157,112), hereafter referenced as Kuhn.

Regarding **claim 1**, Kuhn discloses Method and Apparatus for Generating

Compact Transcoding Hints Metadata. Kuhn specifically discloses A method (Fig.1)

Transcoding System) comprising: defining (Description of Region of Interest , Fig.13) a

first part of a frame (Region of Interest, paragraph 84 and 85) as containing sensitive

information (Region or Object or of Interest, paragraph 85), wherein the frame includes

the first part (Region of Interest, paragraph 84 and 85) and a second part (Not Region of

Interest);

transcoding (Audiovisual Transcoding 106, Fig.1) the first part of the frame at a higher

bit rate than the second part of the frame (higher bit rate for the region of interest,

paragraph 85) based on bandwidth available for transmitting the transcoded frame

(different bitrate for different bandwidth, paragraph 2).

Regarding **claim 2**, Kuhn discloses everything claimed as applied above (see

claim 1). Kuhn further discloses wherein defining a first part of a frame

further comprises: defining one or more items of the first part of the frame as containing

sensitive information (Region of Interest, paragraph 84 and 85), wherein the item is one

of an area and an object (Region or Object or of Interest, paragraph 85).

Regarding **claim 3**, Kuhn discloses everything claimed as applied above (see

claim 2). In addition, Kuhn discloses further comprising:

storing a coordinate of each of the items in a file (Motion trajectory_D may be used to

spatially describe, paragraph 85).

Regarding **claim 4**, Kuhn discloses everything claimed as applied above (see

claim 2). In addition, Kuhn discloses wherein defining one or more items of the

first part of the frame further comprises: transcoding low priority items (second part of

frames, equivalent to Not a region of interest) with the same bit rate as the second part

of the frame if the available bandwidth reduces (different bitrate for different bandwidth,

paragraph 2, higher bit rate for the region of interest, paragraph 85)

Regarding **claim 9**, the invention is system claim corresponding to the method claim 1. Therefore, it is rejected for the same reason as claim 1.

Regarding **claim 10**, Kuhn discloses everything claimed as applied above (see claim 9). In addition, Kuhn discloses further comprising:

memory (Audiovisual Transcoding Hints Metadata Buffer 105, Fig.1) to store a configuration file (metadata, paragraph 17) including a coordinate (spatially describe, paragraph 85) of an item in the first part of the frame, wherein the item is one of an object and an area (Region or Object or of Interest, paragraph 85).

Regarding **claim 13**, Kuhn discloses everything claimed as applied above (see claim 9). In addition, Kuhn discloses wherein the sensitive-information generator (Transcoding Hints Generation Unit 104, Fig.1) sends the definition of the first frame (Audiovisual Transcoding Hints Metadata Buffer 105, Fig.1) to the transcoder (Audiovisual Transcoding Unit 106, Fig.1) and receives a status of the bandwidth from the transcoder. (Characterized by different Network bandwidth, paragraph 2).

Regarding **claim 14**, the invention is a machine-readable medium claim corresponding to the method claim 1. Therefore, it is rejected for the same reason as claim 1.

Regarding **claim 15**, the invention is a machine-readable medium claim corresponding to the method claim 2. Therefore, it is rejected for the same reason as claim 2.

Regarding **claim 16**, the invention is a machine-readable medium claim

corresponding to the method claim 4. Therefore, it is rejected for the same reason as

claim 4.

Claim Rejections - 35 USC § 103

5.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

6.   **Claims 5-6** and **17-18** are rejected as being unpatentable over Kuhn in view of

Vetro (US 6,490,320).

Regarding **claim 5**, Kuhn discloses everything claimed as applied above (see

claim 1). However, Kuhn fails to disclose wherein transcoding further comprises:

reducing the bit rate of the second part of the frame while maintaining the bit rate of the

first part of the frame if the available bandwidth reduces.

In the analogous field of endeavor, Vetro discloses Adaptable Bitstream Video

Delivery System. Vetro specifically discloses reducing frame rate (equivalent to

reducing bit rate) for the background *(the second part, low priority)* while keeping the

information (*bit rate*) about the foreground (*first part, high priority*) intact (col.11, line 40-

43), in order to convert compressed input bitstream to output bitstream at an available bit rate (col.5, line 60-64).

Therefore, given this teaching, it would have been obvious to modify Kuhn by providing wherein transcoding further comprises: reducing the bit rate of the second part of the frame while maintaining the bit rate of the first part of the frame if the available bandwidth reduces, in order to convert compressed input bitstream to a output bitstream at an available bit rate. The Kuhn method, incorporating the Vetro reducing the bit rate of the second part of the frame while maintaining the bit rate of the first part of the frame if the available bandwidth reduces, discloses all the features of claim 5.

Regarding **claim 6**, the Kuhn method, incorporating the Vetro reducing the bit rate of the second part of the frame while maintaining the bit rate of the first part of the frame if the available bandwidth reduces, as applied to claim 5, discloses *wherein transcoding further comprises: reducing the bit rate of the second part of the frame more (*incorporating the Vetro reducing the bit rate of the second part of the frame *) than reducing the bit rate of the first part of the frame* (No reduction of the first part) *if the available bandwidth reduces.*

Regarding **claim 17**, the invention is a machine-readable medium claim corresponding to the method claim 5. Therefore, it is rejected for the same reason as claim 5

Regarding **claim 18**, the invention is a machine-readable medium claim corresponding to the method claim 6. Therefore, it is rejected for the same reason as claim 6.

7.   **Claims 7, 11-12** and **19** are rejected as being unpatentable over Kuhn in view of

Dunn (US 6,356,664) (hereafter referenced as Dunn).

Regarding **claim 7**, Kuhn discloses everything claimed as applied above (see

claim 1). However Kuhn fails to disclose wherein defining a first part of a frame

further comprises: comparing objects in a frame sequence; and

defining the first part as containing the objects appearing most frequently in the frame

sequence.

In the analogous field of endeavor, Dunn discloses Selective Reduction of Video

Data Using Variable Sampling Rates Based on Importance within Image . Dunn

specifically discloses assigning different sampling rates to objects for appearing

frequencies (higher sampling rates (means higher bit rate) for the speaker, less

sampling rates for reporters and audiences, Fig.8, col.8, line 42-60), in order to do

selective reduction in rates based on importance weighting (col.2, line 43-46).

Therefore, given this teaching, it would have been obvious to one skilled in the

art to modify Kuhn by providing wherein defining a first part of a frame

further comprises: comparing objects in a frame sequence; and

defining the first part as containing the objects appearing most frequently in the frame

sequence, in order to do selective reduction in rates based on importance weighting.

The Kuhn method, incorporating the Dunn selective data reduction based importance

weighting of appearing frequencies, has all the features of claim 7.

Regarding **claim 11**, The Kuhn method, incorporating the Dunn selective data reduction based importance weighting of appearing frequencies, as can be applied to claim 7 and 9, discloses memory (Kuhn: Audiovisual Transcoding Hints Metadata Buffer 105, Fig.1) to store a configuration file (Kuhn: metadata, paragraph 17) including a priority (Dunn: weighting, col.8, line 42-60) of an item in the first part of the frame, wherein the item is one of an object and an area (Kuhn: Region or Object or of Interest, paragraph 85).

Regarding **claim 13**, The Kuhn method, incorporating the Dunn selective data reduction based importance weighting of appearing frequencies, as applied to claim 12, discloses file analyzer (Kuhn: Transcoding Hints Generation Unit 104, Fig.1) to convert a format of the configuration file (Kuhn: Transcoding Hints DS 1001, Fug.10) into another format (Kuhn: Fig.16. transcoding hints state meta-data, including bit rate and quantizer scale), compatible with the transcoder.

Regarding **claim 19**, the invention is a machine-readable medium claim corresponding to the method claim 7. Therefore, it is rejected for the same reason as claim 7.

8.   **Claims 8 and 20** are rejected as being unpatentable over Kuhn in view of Augenbraum (US 5,493,456) (hereafter referenced as Augenbraum).

Regarding **claim 8**, Kuhn discloses everything claimed as applied above (see claim 1). However Kuhn fails to disclose wherein defining a first part of a frame further comprises: comparing objects in a frame sequence; and

defining the first part as containing the objects appearing in a most central location of the frame sequence.

In the analogous field of endeavor, Augenbraum discloses Method and Apparatus for Increasing the Recoding Time of a Digital Video Tape Recorder. Augenbraum specifically discloses data reduction by quantizing with different scale factors based on priority of the video data (object) being central portion of the picture, in order to generate the reduced bit rate stream needed to support long play mode of digital VTR (col.3, line 65-68).

Therefore, given this teaching, it would have been obvious to one skilled in the art to modify Kuhn by providing wherein defining a first part of a frame further comprises: comparing objects in a frame sequence; and defining the first part as containing the objects appearing in a most central location of the frame sequence, in order to generate the reduced bit rate stream needed to support long play mode of digital VTR. The Kuhn method, incorporating the Augenbraum data reduction based on the priority of video data being central part of the picture, has all the features of claim 8.

Regarding **claim 20**, the invention is a machine-readable medium claim corresponding to the method claim 8. Therefore, it is rejected for the same reason as claim 8.

Conclusion

9.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- US 6,490,320:   Vetro et al. disclose "Adaptable Bitstream Video Delivery System".

10.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to HEE-YONG KIM whose telephone number is (571)270-3669. The examiner can normally be reached on Monday-Thursday, 8:00am-5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold can be reached on 571-272-7905. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/HEE-YONG KIM/
Examiner, Art Unit 2621

/Andy S. Rao/
Primary Examiner, Art Unit 2621
April 12, 2010